CLAIMS:

1. A laser pyrolysis particle forming method comprising:

feeding a first set of precursors to a first laser application zone;

first applying laser energy to the first set of precursors in the first laser application zone effective to react and form solid particles from the first set of precursors;

ceasing application of any effective laser energy to the solid particles and feeding the solid particles and a second set of precursors to a second laser application zone; and

second applying laser energy to the second set of precursors in the second laser application zone effective to react and form solid material about the solid particles from the second set of precursors.

2. The method of claim 1 wherein the first and second laser application zones are different.

3. The method of claim 1 wherein the first and second laser application zones are the same.

4. The method of claim 1 wherein the first and second sets of precursors are the same and form substantially homogeneous solid particles at the conclusion of the second applying.

5. The method of claim 1 wherein the first and second sets of precursors are different, the second applying forming a solid material coating over the solid particles which is different from material of the solid particles formed in the first applying.

6. The method of claim 5 wherein said solid material is harder than the material of the solid particles formed in the first applying.

7. The method of claim 5 wherein said solid material is softer than the material of the solid particles formed in the first applying.

8. The method of claim 5 wherein the first and second sets of precursors share at least one common precursor.

9. The method of claim 5 wherein the solid material coating and the material of the solid particles formed in the first applying comprise different nitrides.

10. The method of claim 5 wherein the first and second sets of precursors each comprise NH_3, and the solid material coating and the material of the solid particles formed in the first applying comprise different nitrides.

11. The method of claim 5 wherein the first and second sets of precursors do not share any common precursor.

12. The method of claim 5 wherein the material of the solid particles formed in the first applying comprise SiO_2, and the solid material coating comprises an elemental metal.

13. The method of claim 5 wherein the material of the solid particles formed in the first applying comprise SiO_2, and the solid material coating comprises elemental tungsten.

14. The method of claim 1 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 100 nanometers.

15. The method of claim 1 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 1 micron.

16. The method of claim 1 further comprising forming a chemical mechanical polishing slurry using the solid particles after the second applying as at least a portion of a solid abrasive material within the slurry.

17. A laser pyrolysis particle forming method comprising:

providing a reaction flow path comprising a plurality of laser application zones;

feeding a first set of precursors to a first in sequence of the laser application zones along the reaction flow path;

applying laser energy to the first set of precursors in the first in sequence of the laser application zones effective to react and form solid particles from the first set of precursors;

feeding the solid particles and a second set of precursors to a subsequent in sequence of the laser application zones along the flow path; and

applying laser energy to the subsequent in sequence of the laser application zones effective to react and form solid material about the solid particles from the second set of precursors.

18. The method of claim 17 wherein the first and second sets of precursors are the same and form substantially homogeneous solid particles at the conclusion of the second applying.

19. The method of claim 17 wherein the first and second sets of precursors are different, the second applying forming a solid material coating over the solid particles which is different from material of the solid particles formed in the first applying.

20. The method of claim 19 wherein said solid material is harder than the material of the solid particles formed in the first applying.

21. The method of claim 19 wherein said solid material is softer than the material of the solid particles formed in the first applying.

22. The method of claim 19 wherein the first and second sets of precursors share at least one common precursor.

23. The method of claim 19 wherein the first and second sets of precursors do not share any common precursor.

24. The method of claim 17 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 100 nanometers.

25. The method of claim 17 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 1 micron.

26. The method of claim 17 further comprising forming a chemical mechanical polishing slurry using the solid particles after the second applying as at least a portion of a solid abrasive material within the slurry.

27. A laser pyrolysis particle forming method comprising:

providing a reaction flow path comprising at least first and second spaced laser application zones, at least a first precursor inlet to the reaction flow path in advance of the first laser application zone, and at least a second precursor inlet to the reaction flow path between the first and second spaced laser application zones;

feeding at least one precursor through the first inlet to the reaction flow path in advance of the first laser application zone;

feeding the at least one precursor fed from the first precursor inlet along the reaction flow path to the first laser application zone;

applying laser energy in the first laser application zone effective to react and form solid particles from the at least one precursor fed from the first inlet;

feeding the solid particles from the first laser application zone along the reaction flow path to between the first and second spaced laser application zones;

feeding at least one precursor through the second precursor inlet into the reaction flow path between the first and second laser application zones having the solid particles flowing therein;

feeding the at least one precursor fed from the second precursor inlet and the solid particles along the reaction flow path to the second laser application zone; and

applying laser energy in the second laser application zone effective to react and form solid material about the solid particles from the at least one precursor fed from the second inlet.

28. The method of claim 27 comprising feeding multiple precursors from multiple inlets to the reaction flow path in advance of the first laser application zone.

29. The method of claim 27 comprising feeding multiple precursors from multiple inlets to the reaction flow path between the first and second laser application zones having the solid particles flowing therein.

30. The method of claim 27 comprising feeding multiple precursors from multiple inlets to the reaction flow path in advance of the first laser application zone, and feeding multiple precursors from multiple inlets to the reaction flow path between the first and second laser application zones having the solid particles flowing therein.

31. The method of claim 27 comprising feeding an inert gas to the reaction flow path between the first and second laser application zones having the solid particles flowing therein.

32. The method of claim 27 comprising flowing a mixture of precursor gases through the second precursor inlet to the reaction flow path between the first and second laser application zones having the solid particles flowing therein.

33. The method of claim 32 comprising feeding an inert gas to the reaction flow path between the first and second laser application zones having the solid particles flowing therein.

34. The method of claim 27 wherein the precursors provided to the first and second laser application zones are the same and form substantially homogeneous solid particles at the conclusion of the laser energy applying in the second zone.

35. The method of claim 27 wherein the precursors provided to the first and second laser application zones are different, the laser energy applying in the second zone forming a solid material coating over the solid particles which is different from material of the solid particles formed in the laser energy applying in the first zone.

36. The method of claim 35 wherein said solid material is harder than the material of the solid particles formed in the laser energy applying in the first zone.

37. The method of claim 35 wherein said solid material is softer than the material of the solid particles formed in the laser energy applying in the first zone.

38. The method of claim 35 wherein the precursors provided to the first and second laser application zones share at least one common precursor.

39. The method of claim 35 wherein the precursors provided to the first and second laser application zones do not share any common precursor.

40. The method of claim 27 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 100 nanometers.

41. The method of claim 27 comprising forming the solid particles with solid material thereabout to have a maximum diameter of no greater than 1 micron.

42. A chemical mechanical polishing slurry comprising liquid and abrasive solid components, at least some of the abrasive solid component comprising individually non-homogeneous abrasive particles.

43. The chemical mechanical polishing slurry of claim 42 wherein the non-homogeneous abrasive particles comprise an innermost portion and an outermost portion, the innermost and outermost portions comprising different materials.

44. The chemical mechanical polishing slurry of claim 43 wherein the material of the outermost portion is harder than the material of the innermost portion.

45. The chemical mechanical polishing slurry of claim 44 wherein the material of the outermost portion comprises TiN and the material of the innermost portion comprises SiO_2.

46. The chemical mechanical polishing slurry of claim 44 wherein the material of the outermost portion comprises WN and the material of the innermost portion comprises TiN.

47. The chemical mechanical polishing slurry of claim 43 wherein the material of the outermost portion is softer than the material of the innermost portion.

48. The chemical mechanical polishing slurry of claim 42 wherein the non-homogeneous particles are characterized by only two distinct material layers.

49. The chemical mechanical polishing slurry of claim 48 wherein one of the two layers envelopes the other.

50. The chemical mechanical polishing slurry of claim 49 wherein the enveloping layer is harder than the enveloped layer.

51. The chemical mechanical polishing slurry of claim 49 wherein the enveloping layer is softer than the enveloped layer.

52. A chemical mechanical polishing process comprising:

rotating at least one of a semiconductor substrate and polishing pad relative to the other; and

providing a chemical mechanical polishing slurry intermediate the substrate and pad, and polishing the substrate with the slurry and pad during the rotating, the chemical mechanical polishing slurry comprising liquid and abrasive solid components, at least some of the abrasive solid component comprising individually non-homogeneous abrasive particles.

53. The process of claim 52 wherein the non-homogeneous abrasive particles comprise an innermost portion and an outermost portion, the innermost and outermost portions comprising different materials.

54. The process of claim 53 wherein the material of the outermost portion is harder than the material of the innermost portion.

55. The chemical mechanical polishing slurry of claim 53 wherein the material of the outermost portion is softer than the material of the innermost portion.

56. The chemical mechanical polishing slurry of claim 52 wherein the non-homogeneous particles are characterized by only two distinct material layers.

57. The chemical mechanical polishing slurry of claim 56 wherein one of the two layers envelopes the other.

58. The chemical mechanical polishing slurry of claim 57 wherein the enveloping layer is more dense than the enveloped layer.

59. The chemical mechanical polishing slurry of claim 57 wherein the enveloping layer is less dense than the enveloped layer.

60. A particle forming method comprising:

feeding a first set of precursors to a first energy application zone;

first applying energy to the first set of precursors in the first energy application zone effective to react and form solid particles from the first set of precursors;

ceasing application of any effective energy to the solid particles and feeding the solid particles and a second set of precursors to a second energy application zone; and

second applying energy to the second set of precursors in the second energy application zone effective to react and form solid material about the solid particles from the second set of precursors.

61. The method of claim 60 wherein the first and second applied energies are of a same type.

62. The method of claim 60 wherein the first and second applied energies are different types.

63. The method of claim 60 wherein at least one of the first and second applied energies comprises laser energy.

64. The method of claim 60 wherein at least one of the first and second applied energies comprises a combustion flame.

65. The method of claim 60 wherein at least one of the first and second applied energies comprises a plasma flame.

66. The method of claim 60 wherein at least one of the first and second applied energies comprises photosynthesis.

67. A particle forming method comprising:

providing a reaction flow path comprising a plurality of energy application zones;

feeding a first set of precursors to a first in sequence of the energy application zones along the reaction flow path;

applying energy to the first set of precursors in the first in sequence of the energy application zones effective to react and form solid particles from the first set of precursors;

feeding the solid particles and a second set of precursors to a subsequent in sequence of the energy application zones along the flow path; and

applying energy to the subsequent in sequence of the energy application zones effective to react and form solid material about the solid particles from the second set of precursors.

68. The method of claim 67 wherein the applied energies are of a same type.

69. The method of claim 67 wherein the applied energies are different types.

70. The method of claim 67 wherein at least one of the applied energies comprises laser energy.

71. The method of claim 67 wherein at least one of the applied energies comprises a combustion flame.

72. The method of claim 67 wherein at least one of the applied energies comprises a plasma flame.

73. The method of claim 67 wherein at least one of the applied energies comprises photosynthesis.

74. A particle forming method comprising:

providing a reaction flow path comprising at least first and second spaced energy application zones, at least a first precursor inlet to the reaction flow path in advance of the first energy application zone, and at least a second precursor inlet to the reaction flow path between the first and second spaced energy application zones;

feeding at least one precursor through the first inlet to the reaction flow path in advance of the first energy application zone;

feeding the at least one precursor fed from the first precursor inlet along the reaction flow path to the first energy application zone;

applying energy in the first energy application zone effective to react and form solid particles from the at least one precursor fed from the first inlet;

feeding the solid particles from the first energy application zone along the reaction flow path to between the first and second spaced energy application zones;

feeding at least one precursor through the second precursor inlet into the reaction flow path between the first and second energy application zones having the solid particles flowing therein;

feeding the at least one precursor fed from the second precursor inlet and the solid particles along the reaction flow path to the second energy application zone; and

applying energy in the second energy application zone effective to react and form solid material about the solid particles from the at least one precursor fed from the second inlet.

75. The method of claim 74 wherein the first and second applied energies are of a same type.

76. The method of claim 74 wherein the first and second applied energies are different types.

77. The method of claim 74 wherein at least one of the first and second applied energies comprises laser energy.

78. The method of claim 74 wherein at least one of the first and second applied energies comprises a combustion flame.

79. The method of claim 74 wherein at least one of the first and second applied energies comprises a plasma flame.

80. The method of claim 74 wherein at least one of the first and second applied energies comprises photosynthesis.